

ABSTRACT OF THE DISCLOSURE

At an optical transmission system that uses plural light sources for Raman amplification, even when a failure occurred in a pumping light source in one of the light sources for Raman amplification, the signal light output level and its wavelength characteristic are not deteriorated at the final stage, and the number of components in the system is not made to be large and the cost of the system is not made to be high. This optical transmission system is provided. At an optical transmission system using “n” light sources for Raman amplification, a first to “n-1”th light sources for Raman amplification do not provide spare pumping light sources, and an “n”th light source for Raman amplification provides the spare pumping light sources. When a pumping light source in one of the “n” light sources for Raman amplification had a failure, the spare pumping light source in the “n”th light source for Raman amplification corresponding to the failure occurred pumping light source is worked. With this, the signal light output level and its wavelength characteristic are recovered to a normal state before the failure occurred.